



Water Supply Fee Semiannual Report

January-June 2017

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Water Supply Fee Semiannual Report January – June 2017

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About the cover:

San Antonio Water System's (SAWS) conservation outreach efforts such as its annual Spring Bloom gardening festival (upper left)

SAWS field crews continued working towards reducing the real losses in SAWS distribution system (upper right)

SAWS commitment to the community's water future is exemplified by new water supply projects such as the Vista Ridge public-private partnership, with wells being drilled, pipe being installed, and delivery expected to begin in the spring of 2020 (lower left)

SAWS celebrated innovative new technology such as its new brackish groundwater desalination plant, with a grand opening on January 27, 2017 (lower right)

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Introduction

San Antonio Water System (SAWS) is pleased to present the 2017 Water Supply Fee Semiannual Report to San Antonio City Council. This report is a requirement of Chapter 34 of the Municipal Code, Section 34-1349 and is submitted to City Council twice each year, covering the periods of January through June, and July through December. This Water Supply Fee Semiannual Report is a different document than SAWS Water Management Plan.

SAWS was created by an act of the City Council in May 1992, through Ordinance 75686. The District Special Project (DSP) was authorized in October 2011 by City Ordinance 2011-10-0845 to enable the transfer of assets, liabilities, rights, duties and obligations of the former Bexar Metropolitan Water District (BexarMet) to SAWS. Combined, SAWS serves approximately 1.78 million people. The service area covers 927 square miles primarily in Bexar County and in limited areas of Atascosa, Medina and Comal counties.

This report documents the water resources activities pertaining to the implementation of San Antonio Water System's long-term planning efforts, with focus on activities during the period of January 1 through June 30, 2017 and mid-year production volumes. The report will:

- Review the progress on the Water Management Plan,
- Provide a status report on the utility's water production,
- Recap the water supplies developed and costs during the reporting period,
- Provide an update on the acquisition of additional water supplies, and,
- Summarize revenues generated from the water supply fee, capital spending on water supply projects, and summarize the maintenance and operational expenses for completed projects.

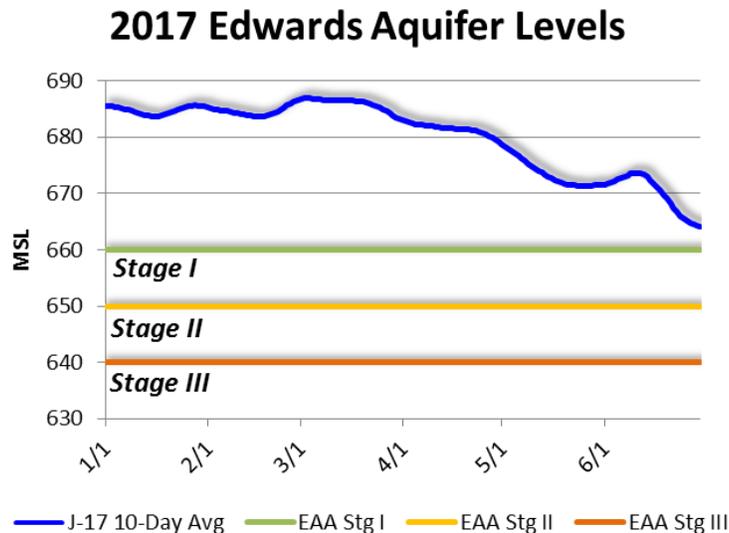
SAWS had a total potable demand of 112,914 acre-feet (AF) during the first half of 2017. Included in this total is 88,193 acre-feet of Edwards Aquifer production. During the first half of 2017, Edwards Aquifer supply accounted for nearly 78 percent of the total potable demand. One acre-foot of water is equal to 325,851 gallons.

The current water supply portfolio consists of groundwater supplies from the Edwards Aquifer, the Trinity Aquifer in Bexar County, the Carrizo Aquifer in southern Bexar County, and from Gonzales County for the Regional Carrizo Program. In November 2016, SAWS started delivering desalinated drinking water using brackish groundwater from the Lower Wilcox Aquifer in southern Bexar County. Additionally, groundwater is obtained from Carrizo Aquifer wells in Guadalupe and Gonzales counties via the Wells Ranch Project by Canyon Regional Water Authority (CRWA). SAWS surface water supplies include the Guadalupe-Blanco River Authority's Western Canyon Project (Canyon Lake), Medina Lake and River system, and CRWA's Lake

Dunlap Project. In addition, SAWS maintains as part of its diversified water supply portfolio the largest direct recycled water system and the largest groundwater-based Aquifer Storage & Recovery (ASR) facility in the nation.

During the first half of 2017, SAWS had full access to its Edwards Aquifer permit since there were no daily Edwards Aquifer Authority (EAA) stage reductions in that period. Even with the favorable aquifer conditions and abundant rainfall, the community continues to embrace water conservation programs, and adhere to applicable conservation measures. SAWS enforces a year-round reasonable regulation to prevent spray irrigation use in the middle of the day. Spray irrigation usage must end by 11 a.m. and should not be used again until after 7 p.m.

As 2016 began, San Antonio's drought restrictions had ended, after nearly five years of being in place. This continued through the first half of 2017 when there were no drought restrictions. San Antonio J-17 Index well levels for the reporting period are shown in the graph below. Due to timely precipitation events, Edwards Aquifer levels stayed above 660' msl, eliminating the necessity for reasonable regulations such as drought restrictions during the first half of 2017.



The newly adopted SAWS 2017 Water Management Plan calls for the implementation of three new planned water supplies (Vista Ridge Project, additional phases of the Brackish Groundwater Desalination Program, and the expansion of the Bexar County Carrizo Aquifer project). The Vista Ridge Project would add 50,000 acre-feet per year of firm water supply by the year 2020, and the other two projects would add up to an additional 41,160 acre-feet per year in the late 2040s.

- SAWS and the Vista Ridge project company, after unanimous approval by SAWS Board and San Antonio City Council, entered into an agreement on November 4, 2014 to provide San Antonio with an additional 50,000 acre-feet of water annually (or approximately 20 percent of SAWS annual demand). The agreement provides for a long-term supply of water from a non-Edwards Aquifer source that will be delivered starting in 2020, and

continuing for 60 years. Under the agreement, the Vista Ridge project company has secured sufficient water rights in Burleson and Milam Counties, northeast of Austin, and is well into the construction of the wellfield and pipeline to San Antonio. Vista Ridge project company completed its development phase goals and received the approval of SAWS Board of Trustees on November 1, 2016 to enter the construction phase of the project. On November 2, 2016, Vista Ridge project company secured loan agreements to finance design and construction, which began in early 2017. Water delivery is expected to start in early 2020.

- SAWS broke ground for its Brackish Groundwater Desalination (BGD) reverse osmosis plant in south Bexar County in July 2014. Construction on Phase I was completed and began operation in November 2016. Phase I includes a desalination plant capable of producing up to 12 million gallons of drinking water per day by treating moderately salty groundwater from the Lower Wilcox Aquifer. Future phases are anticipated to be on line in the late 2040s.
- SAWS' 2017 Water Management Plan calls for the implementation of an expansion of its existing Local Carrizo project. Despite progressive conservation goals, total demand is projected to increase, and this Expanded Carrizo project is expected to increase SAWS' supply by 21,000 AFY. Expanded Carrizo project is anticipated to begin design in the 2040s, and to be on line in the late 2040s.

These three proposed projects will be funded by the Water Supply Fee, which is a multi-year funding mechanism for the development, construction and management of additional water supply. Since its implementation in 2001, the Water Supply Fee has generated over \$1.2 billion to support the expansion and diversification of SAWS water supply portfolio. The funds generated from the Water Supply Fee have been used to fund capital investments, operating and maintenance expenses, and debt service associated with new water supply projects. SAWS capital investment in water supply projects since 2001 totals over \$1.1 billion.



Water Supply Summary

This section summarizes the status for each water resource project for the first half of 2017.

Supply	Acre-Feet Delivered	Activity		
Edwards Aquifer	88,193	<ul style="list-style-type: none"> 2017 beginning of year permit was 284,278 AF. Regulatory cutback was 0% for the first half of 2017. 		
Medina Lake and River System	0	<ul style="list-style-type: none"> Medina Lake began 2017 at 93% capacity. Lower than average rainfall during the spring resulted in a lowering of water levels to 85% capacity at the end of June. 		
Direct Recycled Water	5,250 <ul style="list-style-type: none"> 3,022 (<i>consumptive</i>) 2,228 (<i>river flow</i>) 	System Supply: 25,000 AF		
		<table border="1"> <tr> <td>Contracted:</td> <td>13,002 AF</td> </tr> <tr> <td>Available supply:</td> <td>11,988 AF</td> </tr> </table>	Contracted:	13,002 AF
Contracted:	13,002 AF			
Available supply:	11,988 AF			
Trinity Aquifer	8,794	<ul style="list-style-type: none"> Water levels and delivery started high in January, but below average rainfall during the spring resulted in a lowering of water levels and lower production rates. 		

Supply	Acre-Feet Delivered	Activity
Canyon Regional Water Authority	1,067	<ul style="list-style-type: none"> CRWA is completing the installation of equipment to improve the disinfection method that will result in SAWS having the ability to utilize additional volumes of water.
Canyon Lake	4,434	<ul style="list-style-type: none"> Canyon Lake continued to deliver a steady and reliable supply of water
H ₂ Oaks Aquifer Storage and Recovery	ASR storage to distribution system: 1,418 SAWS Edwards water to storage: 1,357 EAHCP Edwards water to storage: 11,172	<ul style="list-style-type: none"> Total stored Edwards water on June 30, 2017: 132,114 AF Total EAHCP Edwards water to storage, 2013-June 2017: 51,233 AF
Carrizo Aquifer (Bexar County)	0	<ul style="list-style-type: none"> Zero production through June 2017
Regional Carrizo Program	6,769	<ul style="list-style-type: none"> Includes SAWS Buckhorn wellfield production in Gonzales County plus water purchased from Schertz-Seguin Local Government Corporation
Brackish Groundwater Desalination Program	2,239	<ul style="list-style-type: none"> Groundbreaking for construction of plant took place on July 2, 2014 Plant was completed in fall 2016; delivery to distribution system began in November 2016



Planned Projects 2017-2025 (2017 WMP assumptions)	Status
<p>Vista Ridge (Construction)</p>	<ul style="list-style-type: none"> • Vista Ridge project company obtained SAWS Board approval of completion of development phase goals, and on November 2, 2016 secured the loan agreements needed for funding design and construction of the project. • Vista Ridge construction started in spring of 2017. • Pipeline installation began in April 2017. • Well drilling began in May 2017. As of October 2017, 5 wells have been completed and 3 additional wells are currently in various stages of drilling, testing or completion.
<p>Conservation Programming</p>	<ul style="list-style-type: none"> • Programming to reduce planned average year consumption from 124 gallons per capita per day (GPCD) in 2017 to 111 GPCD in 2025. <p>Conservation initiatives have successfully targeted program emphasis in the management of outdoor water demands.</p> <p>Program highlights from the first half of 2017 include:</p> <ul style="list-style-type: none"> • Launched WaterSmart Software Study with 10,000 high discretionary water use households and 4,000 Affordability Households getting personalized reports identifying conservation opportunities. • Over 1,300 Conservation Consultations completed at homes averaging 2,000 gallons of savings/month/home • Issued over 8,758 WaterSaver Coupons to applicants. • Improved compliance with Irrigation Check Up regulation with 2,800 reports approved and 81% overall compliance rate. • Doubled number of households served through Plumbers to People by using outreach and analysis to proactively identify another 450 low-income households needing leak repair.

Planned Projects 2026-2040 (2017 WMP assumptions)	Status
Conservation Programming	<ul style="list-style-type: none"> • Programming to reduce average year consumption from 110 GPCD in 2026 to 96 GPCD in 2040 • Strategies to achieve reduction will include continued investment in conservation education, incentives, and reasonable regulation • There will be continued development of programs that help residential and commercial customers manage their water usage. This will accelerate adoption of water efficient technology, encourage use of technology and other techniques to monitor leaks and education to encourage adoption of behavioral changes that save water.

Planned Projects 2041-2070 (2017 WMP assumptions)	Status
Conservation Programming	<ul style="list-style-type: none"> • Programming to reduce average year consumption from 96 GPCD in 2041 to 88 GPCD in 2070 • Strategies to achieve reduction will include continued investment in conservation education, incentives, and reasonable regulation • There will be continued development of programs that help residential and commercial customers manage their water usage. This will accelerate adoption of water efficient technology, encourage use of technology and other techniques to monitor leaks and education to encourage adoption of behavioral changes that save water.
Brackish Groundwater Desalination Program	<ul style="list-style-type: none"> • Future phases will deliver up to an additional 20,160 AFY of water, for a project total of up to 33,600 AFY • Design would be undertaken in the early 2040s, with construction beginning in the late 2040s • Hydrologic modeling has been conducted to determine the amount of additional Wilcox Aquifer production and number of wells that could be supported
Expanded Carrizo (Bexar County) Project	<ul style="list-style-type: none"> • Future phases are anticipated to provide an additional 7,000 AF annually for each phase. • Design would be undertaken in the early 2040s, with construction beginning in the late 2040s • Project can be designed and constructed quickly, relative to other projects



Featured Projects

Vista Ridge – Regional Water Supply

Project Status: Project approved, contract signed

Water Supply: Groundwater, Carrizo and Simsboro Aquifers; leases in Burleson and Milam Counties, wells in Burleson County

Background:

Following SAWS Board approval on September 29, 2014, and San Antonio City Council's approval on October 30, 2014, SAWS Chairman Berto Guerra, SAWS President/CEO Robert R. Puente, and city officials signed a contract with the Vista Ridge Project Company to bring a new water supply of 50,000 AFY (16.3 billion gallons annually) to San Antonio. The agreement calls for the Vista Ridge project company to build and operate wells and a pipeline system to pump groundwater from Burleson County to San Antonio for a period of 30 years. In exchange, SAWS will pay a fixed unit price for water produced and made available plus all operating and maintenance costs. At the end of the contract term, the wellfield and pipeline system ownership will transfer to SAWS.

The project is divided into three phases: Development, Construction, and Operations. The contract signing initiated the Development Phase involving permitting, easement acquisition, and other activities required to secure funds necessary to finance construction of the system. After financing is secured, the project envisions slightly under four years for the Vista Ridge project company to complete the Construction Phase. Thereafter, the Operations Phase will begin and continue for 30 years. SAWS will be responsible for the construction of its Central Water Integration Pipeline project (CWIP) within 39 months of Financial Close.

A second agreement with the owner of the groundwater leases gives SAWS the right to continue producing water for an additional 30-year term beginning upon the transfer of system ownership to SAWS. In combination, both agreements will provide over 60 years of contracted water supply. The financial attractiveness of this project will continue during the second term when the price of water likely drops substantially from the first-term price.

The Vista Ridge project construction is expected to be complete in April of 2020, at which time it will account for approximately 20 percent of potable water delivered to customers.

Activities this Period:

The Vista Ridge project company, under the leadership of Garney Construction as of June 10, 2016, continued development of the project including acquisition of easements for the pipeline, and fee simple title to the pump station and delivery point sites, preliminary engineering, and permitting.

On November 1, 2016, after considering the Vista Ridge project company's completion of development phase requirements, SAWS Board approved the Vista Ridge project company to proceed to Financial Close and enter into the construction phase of the project. The following day on November 2, 2016, the Vista Ridge project company attained Financial Close by securing the financing agreements with creditor banks for the major expenditures needed to design and construct the project.

The Vista Ridge project company broke ground for pipeline construction and well drilling in the spring of 2017. Construction completion is planned for early 2020, and commercial operation with full-time delivery of water begins in the spring of 2020.

Central Water Integration Pipeline (CWIP)

Project Status: Project approved

Water Supply: Groundwater, Carrizo and Simsboro Aquifers; leases in Burleson and Milam Counties, wells in Burleson County

Background:

In order to receive and effectively distribute the total volume of Vista Ridge water throughout the SAWS distribution system, the Central Water Integration Pipeline (CWIP) Project was developed. The project includes design and construction of the Terminus Facility, newly constructed and rehabilitated pipelines, a new 5 million gallon ground storage tank at the Bitters Pump Station, upgrades to major pump stations, several new pressure reducing valves and SCADA automation efforts. The Terminus Facility is located in the Stone Oak area immediately south of Las Lomas Elementary School, along Hardy Oak Blvd. The current budgeted amount for the CWIP project is approximately \$145 million.

Activities This Period:

Because of the collaborative nature and the necessary timeline associated with the project, SAWS chose to use an alternative procurement method from traditional Design-Bid-Build for the delivery of the CWIP Project. The Progressive Design-Build model was pursued and Kiewit Infrastructure South Company, together with Tetra Tech, was chosen as the Design-Builder to proceed with Phase I design services on September 13, 2017. Black & Veatch Corporation was chosen to serve as SAWS' Owner's Representative via Board of Trustees action on November 1, 2016.

Brackish Groundwater Desalination Program

Project Status: Operation stage (Phase I)

Water Supply: Brackish groundwater, Lower Wilcox Aquifer, southern Bexar County

Background:

SAWS has developed a Brackish Groundwater Desalination (BGD) program in southern Bexar County, which is designed to help meet the city's water demand while reducing dependence on the Edwards Aquifer. The Texas Water Development Board (TWDB) has confirmed that a vast supply of brackish groundwater exists in our region and has yet to be developed. As directed by legislation that passed in 2015 (HB 30), the TWDB is conducting further studies of brackish groundwater across the State, including the San Antonio region, and has presented the first round of data. The South Central Texas Regional Water Planning Group (Region L) has identified brackish groundwater as a supply source to meet future demand.

SAWS desalination facility is capable of producing up to 12 million gallons of drinking water per day from the Wilcox Aquifer in Phase I. The plant and wells are located at SAWS H₂Oaks Center (formerly known as the Twin Oaks site), ~3,200 acres owned by SAWS that is also home to its Aquifer Storage & Recovery program and Local Carrizo project. Future phases will deliver up to an additional 20,160 acre-feet per year of water for a project total of up to 33,600 acre-feet per year. However, the timing of additional phases of the brackish desalination program will be considered as part of SAWS' ongoing planning efforts.

The cost per acre-foot for Phase I is estimated at \$1,374 not including the cost to integrate the water into SAWS distribution system. As of June 2017, SAWS has invested \$170.1 million in capital improvement for the BGD Program. Once treated, the water will be compatible with Edwards Aquifer water and will blend with the rest of the water in the distribution system. While this supply of water is more expensive than Edwards Aquifer water, it is plentiful and unaffected by prolonged drought.

Activities This Period:

Construction of the production well field, pipelines, reverse osmosis treatment plant, and injection wells has been completed. Reliability testing and commissioning of the treatment plant was completed at year-end 2016. Water delivery to the SAWS distribution system began on November 10, 2016. The grand opening of the plant took place on January 27, 2017.

Nonrevenue Water (NRW)

Background:

The key to NRW is understanding and eliminating instances of it, using practical, cost effective implementation opportunities. SAWS is committed to optimizing based on appropriate performance indicators. SAWS performs standardized audits annually and works

with loss control professionals to implement the best strategies for SAWS.

NRW is complex, and incorporates more than just addressing leaks. As a means of awareness and review, NRW is comprised of authorized use, apparent losses and real losses.

Authorized Use is a consumptive use approved by the utility, thereby providing a benefit to the community. Some examples would be water quality line flushing, firefighting, sampling, etc.

Apparent Losses occur when the water is successfully delivered to a water user but for various reasons are not measured or recorded accurately, thereby introducing a degree of error in the amount of actual customer consumption. The most common example is a mechanical meter aging or wearing out and not registering all of the flow, resulting in the utility not recovering the revenue due for the service. Other examples are theft and computer processing errors when transferring large amounts of data.

Real Losses are physical losses from the distribution system when pipes fail and leakage occurs. Not all leaks are created equal and they are categorized into hidden (some can be leak detected) and visible (reported) occurrences.

Activities This Period:

SAWS continues on a multi-year implementation strategy that is reviewed with annual standardized auditing. Highlights during this reporting period include:

- SAWS commissioned Water Systems Optimization (WSO) to be its Loss Control Consultant, and as part of their system review it was determined that annual proactive leak detection should be increased to half of SAWS service area per year. This change would increase the amount of leak work orders, thereby requiring a funding source to deal with this additional work. SAWS negotiated a contract with EAA in support of the EAHCP that would provide \$18.6 million in funding over the next five years, for contractors' assistance with these additional repairs. This work will save an estimated 4,745 acre-feet annually, and provide invaluable data and insight into the reoccurrence of leakage. These activities will help to inform future planning and cost effectively manage real water loss. The first half of 2017 represented the start of the third year of comprehensive scanning, and the second year of EAHCP funding.
 - SAWS provided the final 2016 report to EAHCP staff on February 14, 2017. This report documented an estimated 4,253 AF saved, and SAWS accounted for \$4.5 million of contractor repairs in 2016 through the regional funding contract.
 - In May 2017, SAWS filed a provisional report with EAHCP staff, which found an estimated 1,090 AF of savings for early 2017, which was funded through \$600,000 of contractor repairs from the regional funding contract.
- SAWS began a task to look at pressure data from field instruments and to verify the

hydraulic model SAWS uses for the potable water system. This is an important understanding for water utilities, as pressures are exerting force on the potable water infrastructure. Understanding this relationship along with maintenance history will allow better more cost efficient plans for how the utility manages the utility's most important unseen assets – the pipes that convey water to our customers. SAWS deployed approximately 50 hydrophones in the field during April 2017. The data will be used to confirm a system-wide average pressure during the second half of the year, to be used by SAWS hydraulic modelers as field calibration data.

- SAWS continues to make significant investments in annual testing and replacement of customer meters. Initiatives are also looking at how Advanced Metering Infrastructure (AMI) could benefit management of our water resources.

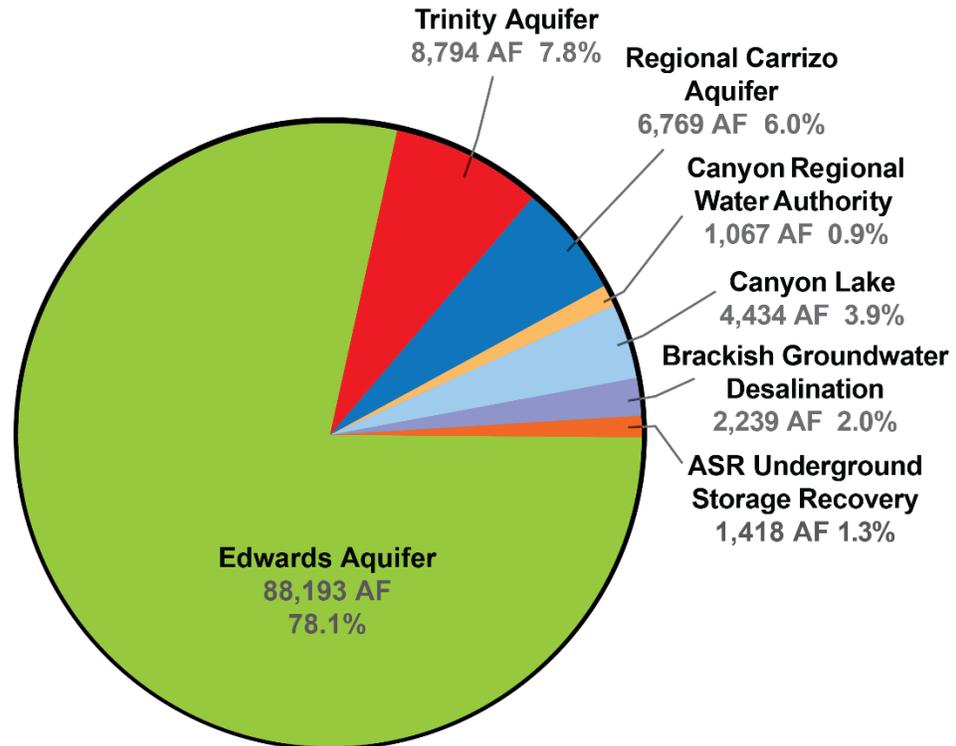
It is easy to see that NRW is a complex challenge. Actual results will only be measurable over time and will require investment. This is a systematic program requiring continued attention to understand long-term system implications. Preliminary understanding of leakage reoccurrence may be available soon, as leak detection canvassing has started to cover areas that had been previously canvassed in 2015.

Delivery to Customers

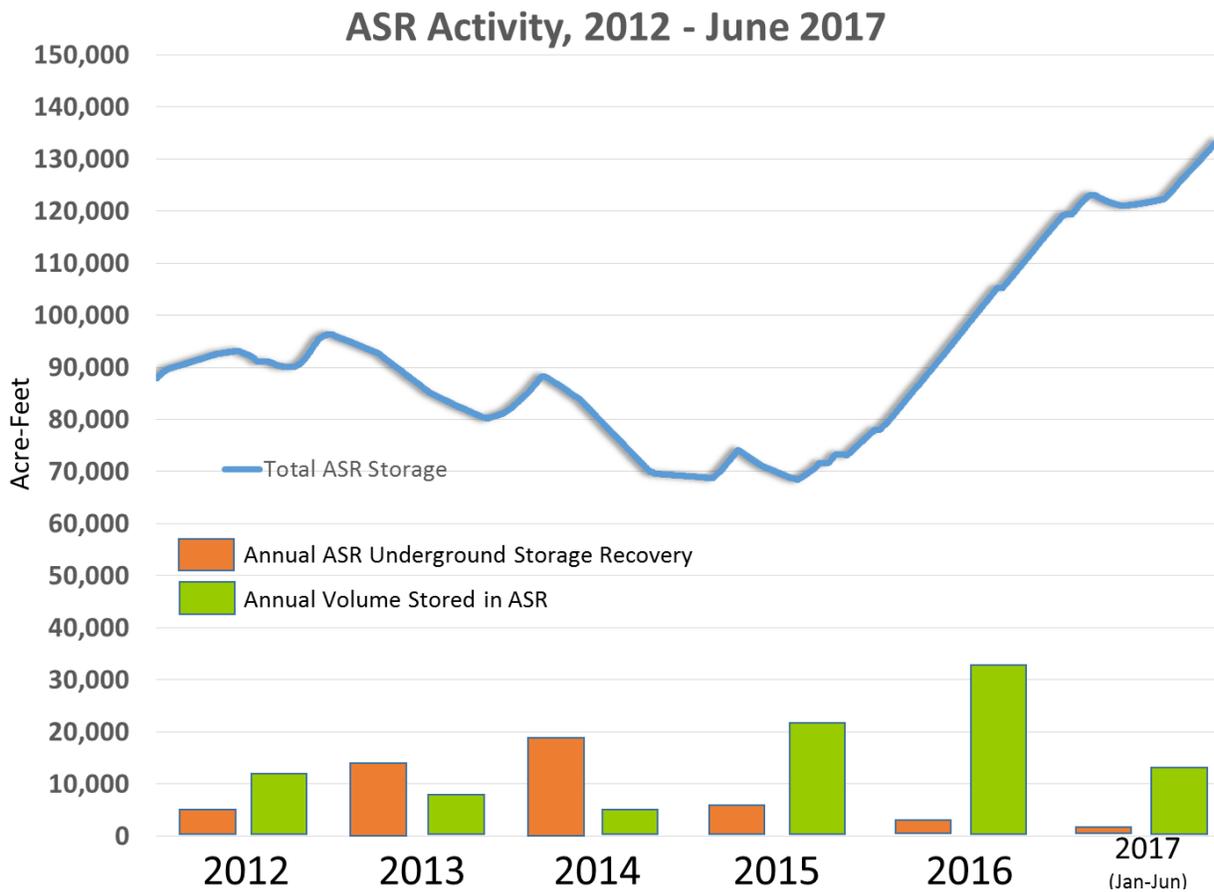
In the first half of 2017, SAWS delivered a total potable supply to customers of 112,914 AF. This does not include 12,529 AF of Edwards Aquifer water stored in ASR during that period, which brought the total net volume of water stored in ASR to 132,114 AF on June 30, 2017.

SAWS total demand was supplied by water sources shown in the chart below.

SAWS Potable Water Delivery for January-June 2017



SAWS Aquifer Storage and Recovery storage volume has remained in excess of 65,000 acre-feet over the last seven years, and was a key tool in minimizing drought impacts during the drought of 2011-2015. Historic storage volume and annual storage and recovery amounts are shown in the graph below.



Financial Report

Integration of Bexar Metropolitan Water District Assets, Operations and Personnel

SAWS was tasked with rebuilding Bexar Metropolitan Water District (BexarMet). At the time, the water utility that was facing severe financial and budgetary constraints, infrastructure needs, non-firm water sustainability, relatively high water rates, relatively low employee compensation, lack of appropriate employee resources due to layoffs, and a generally poor relationship with the public. Through concerted efforts during 2012 and 2013, SAWS resolved that prior utility's numerous and substantial challenges.

Effective January 28, 2012, the assets, liabilities, rights, duties and obligations of BexarMet were transferred to an entity known as San Antonio Water System District Special Project (DSP). In February 2016, SAWS refunded all outstanding DSP debt and dissolved the DSP entity. The last step to full integration occurred effective January 1, 2017, when SAWS and former DSP customers began paying the same rates.

Water Supply Fee

On Oct. 19, 2000, the San Antonio City Council via Ordinance #92753 approved a funding mechanism for the construction and development of additional water resources to meet projected water demands for the City of San Antonio and Bexar County for the next 50 years.

The Water Supply Fee assists in funding expenditures for the development of new water resources to include all operating, maintenance, research and development, and capital costs (including debt service when capital expenditures are debt funded). As mentioned earlier, SAWS has the largest direct recycled water systems in the nation, which moderates the size of the Water Supply Fee by reducing the need for additional water supplies.

The Water Supply Fee per 100 gallons in 2017 for each customer class is summarized below.

RATE CLASS	Usage Block Thresholds Gallons	Assessed Fee RATE PER 100 GALLONS
<i>Residential</i>	2,992	\$0.0954
	4,489	\$0.1669
	5,985	\$0.2145
	7,481	\$0.2623
	10,473	\$0.3100
	14,962	\$0.3577
	20,199	\$0.4292
	Over 20,199	\$0.6198
<i>General</i>	Base*	\$0.1799
	125% of Base	\$0.2070
	175% of Base	\$0.2699
	Over 175% of Base	\$0.3149
<i>Wholesale</i>	Base**	\$0.2344
	Over Base	\$0.7033
<i>Irrigation</i>	8,229	\$0.2354
	17,954	\$0.3296
	162,316	\$0.4238
	Over 162,316	\$0.5416

*The Base Use for General Class is defined as 100% of the Annual Average Consumption.

**The Base Use for the Wholesale Class is defined as 100% of the Annual Average Consumption or as agreed to by the wholesale customer and approved by the SAWS Board of Trustees.

Water Supply Fee Financial Reports

The following tables provide an accounting of the collection and uses of the Water Supply Fee since its inception in 2001.

San Antonio Water System Sources and Uses of Funds Water Supply 2001 – June 2017 (\$ in Millions)	
Water Supply Fee	\$1,309.41
Operating Transfer from Water Delivery	159.48
Non-operating income & Other	71.72
Recycle Water Revenues	66.18
Water Supply Impact Fees	154.27
Bond Proceeds	839.03
Water Supply O&M	(715.23)
Debt Service	(535.01)
Capital Funding	<u>(1,116.87)</u>
Funds Provided	<u>232.98</u>
Restrictions on Cash	125.83
Designations on Cash	<u>56.49</u>
Unrestricted/Undesignated Funds	<u>\$ 50.66</u>



San Antonio Water System
Operating & Maintenance Expenditures
2001 – June 2017
(\$ in Millions)

Operating and Maintenance Costs	
Western Canyon Project - GBRA	\$ 92.13
Oliver Ranch - Lease Payments & Production Costs	24.22
Trinity Stein/Rogers Ranches	25.68
BSR - Lease Payments & Production Costs	5.66
Regional Carrizo - Water Sales Agreements & Other ³	56.92
Canyon Regional	9.97
Brackish Desalination	3.12
Medina Lake	4.12
Edwards - Lease Expense & Other	66.12
Aquifer Storage & Recovery Project	41.89
Aquifer Protection & Compliance	36.41
Vista Ridge ⁵	2.13
Recycled Water Operations	38.93
Conservation Program - net loss/(income)	(1.18)
Stormwater program - net loss	2.61
LCRA - Study Period and Other, Net of Cash Recovery ⁴	17.97
Lower Guadalupe Water Supply Project	6.26
Simsboro Aquifer	4.41
Recharge Initiative	0.80
Other Water Resources Cost	16.71
Facilities Maintenance	25.44
Communication & Outreach	12.02
Legal - Water Law	8.14
Billing & Collections	50.18
Finance & Information Systems	43.76
Corporate Facilities	11.48
Human Resources, Safety, Other Benefits ¹	36.87
Other Support Services ²	30.64
Transfer to COSA	<u>41.82</u>
Total Operating & Maintenance	<u>\$ 715.23</u>

¹ Includes workers compensation and dependent and retiree health insurance.

² Includes executive management, Board of Trustees, Internal Audit, Legal (corporate) and other miscellaneous.

³ Includes a \$12.4 million write-off of pipeline design costs made obsolete with the agreement with Schertz Seguin Local Government Corporation to transport water from Gonzales County to SAWS.

⁴ Total program cost net of cash recovered from LCRA settlement.

⁵ Development Stage costs paid by SAWS.

San Antonio Water System
Water Supply Capital Spending
2001 – June 2017
(\$ in Millions)

	FUNDING		
	Pay-as-you-go	Debt	Total
Water Supplies:			
Non-Edwards Water Supplies			
Western Canyon Project - GBRA	\$ 3.31	\$ 10.87	\$ 14.18
Trinity Aquifer Projects (Oliver Ranch/BSR)	12.49	-	12.49
Local Carrizo	1.31	13.52	14.82
Brackish Desalination	62.42	136.48	198.90
Regional Carrizo	56.04	63.80	119.84
Aquifer Storage & Recovery Project (ASR)	2.20	245.64	247.84
Expanded Carrizo	0.44	0.26	0.70
Recycled Water System	1.15	84.71	85.85
Total Non-Edwards	139.35	555.28	694.63
Edwards Aquifer Water Rights	87.52	153.18	240.70
Total Water Supply Capital Spending	226.87	708.46	935.33
Other Capital Spending:			
Integration	42.33	104.24	146.57
Unallocated Project Overhead	1.81	-	1.81
Land, Buildings & Equipment	27.87	5.29	33.16
	72.01	109.53	181.54
Total Capital Spending	\$ 298.88	\$ 817.99	\$ 1,116.87



San Antonio Water System
Cash Restrictions/Designations
Water Supply
2001 – June 2017
(\$ in Millions)

Restrictions on Cash:	
Operating Reserve	\$ 21.28
Reserve Fund	20.11
Construction Funds:	
Bond Funds ¹	20.68
Impact Fees ²	<u>63.76</u>
	125.83
Designations on Cash:	
Future Reserve Fund deposits	-
PGA Monitoring/WQEE/Conservation	5.76
Interest Mitigation Fund ³	20.15
2017 & Prior CIP program (cash funds)	<u>30.58</u>
	56.49
Unrestricted/Undesignated Funds	<u>50.66</u>
Total Water Supply Funds Available	<u>\$ 232.98</u>

¹ Represents bond proceeds currently on hand. These proceeds have all been committed to be used on existing projects.

² Represents unspent impact fees. These have all been committed to fund CIP projects in the 2015 & prior CIP program or they will be used to help fund future CIP programs.

³ Represents funds accumulated as a result of favorable variances in debt service. Funds may be used for CIP or to otherwise reduce debt service costs.

Glossary

AF	Acre-Foot (325,851 gallons)
AFY	Acre-Feet per year
ASR	Aquifer Storage & Recovery Facility / underground storage facility
BGDP	Brackish Groundwater Desalination Program
BMA	Bexar-Medina-Atascosa Improvement District #1
BMWD	Bexar Metropolitan Water District
BSR	Bulverde Sneekner Ranch
CCN	Certificate of Convenience and Necessity
CRWA	Canyon Regional Water Authority
DFC	Desired Future Condition
DOR	Drought of Record
DSP	District Special Project (former BexarMet)
EAA	Edwards Aquifer Authority
EAHCP	Edwards Aquifer Habitat Conservation Plan
EOY	End of Year
GBRA	Guadalupe-Blanco River Authority
GCD	Groundwater Conservation District
GPCD	Gallons per Capita per Day
HB	House Bill
HCP	Habitat Conservation Plan
MGD	Million Gallons per Day
OR	Oliver Ranch
RCP	Regional Carrizo Project
RFCSP	Request for Competitive Sealed Proposals
SAWS	San Antonio Water System
SB	Senate Bill
SSLGC	Schertz-Seguin Local Government Corporation
TWDB	Texas Water Development Board
WMP	Water Management Plan
WSC	Water Supply Corporation
WTPA	Water Transmission and Purchase Agreement

Firm Yield – The volume of water which can be produced from a defined source during a repeat of the drought of record under existing regulatory, legal, contractual, hydrological or infrastructure constraints.

Desired Future Condition – Defined by Title 31, Part 10, §356.10 (6) of Texas Administrative Code as "the desired, quantified condition of groundwater resources (such as water levels, spring flows or volumes) within a management area at one or more specified future times as defined by participating groundwater conservation districts within a groundwater management area as part of the joint planning process."

